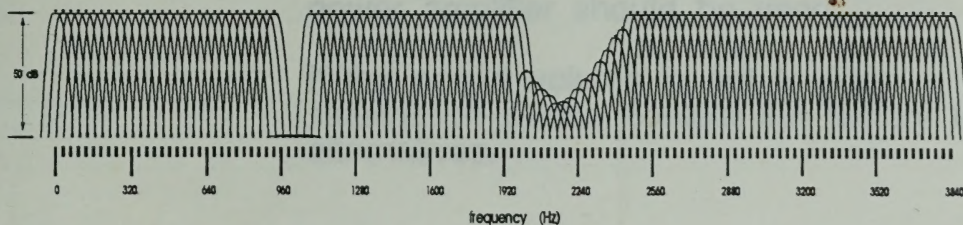
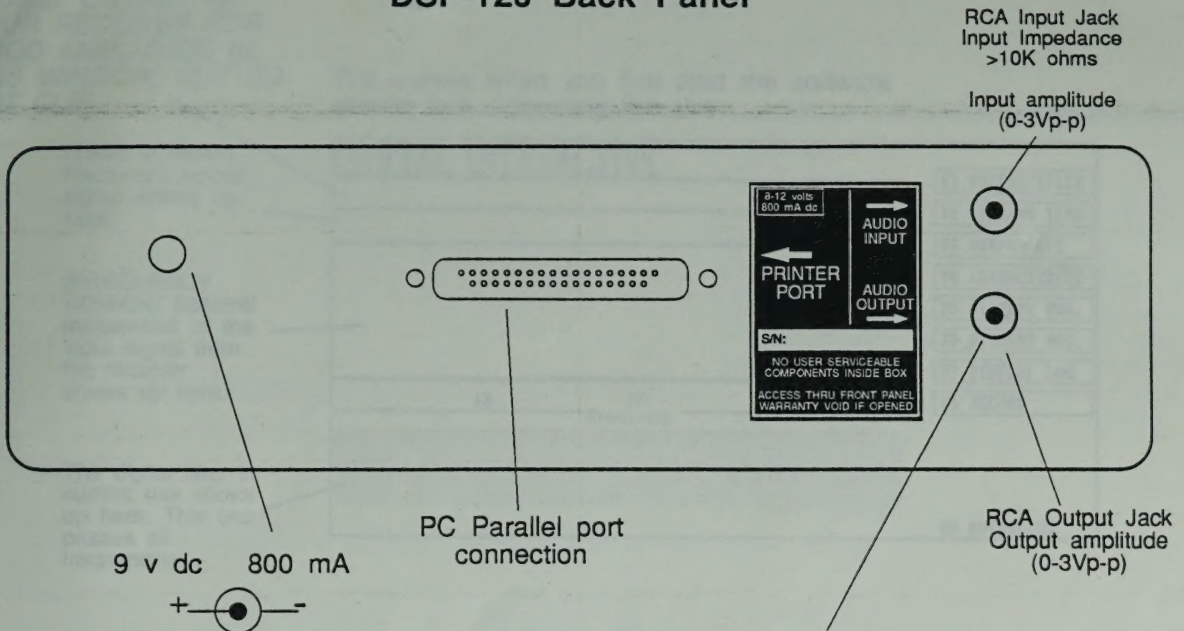


DIGITAL INTERACTIVE

DSP-120 AMATEUR RADIO USER'S GUIDE 6/1/92



DSP-120 Back Panel



The output will drive headphones with very low distortion.

To drive large speakers or if you wish to have more volume a good quality external power amplifier should be used.

If the output volume is not to your satisfaction please contact the factory for alternatives.

When ever using an IBM-PC in the Amateur Radio enviroment be sure the IBM-PC's AC power cord has its 3rd prong connected for ground. This eliminates PC RFI problems.

Note: You can buy RCA jack to anything converters at Radio Shack.

INITIAL POWER UP SCREEN

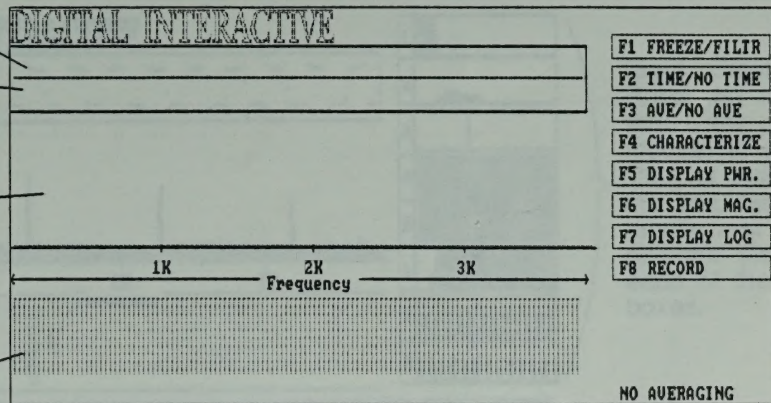
ADJUST OUTPUT OF
YOUR RECEIVER FOR
GOOD AMPLITUDE IN
THIS WINDOW, BUT DO
NOT CLIP.

The screen when you first start the software
should look something like this :

(TIME DOMAIN)
Receiver's output
signal shows up
here

(FREQUENCY
DOMAIN) Spectral
frequencies of the
input signal from
the receiver
shows up here.

The digital filter in
current use shows
up here. This one
passes all
frequencies.



Pressing F1 takes you to a the filter modification screen mode.

Pressing F2 toggles between showing the TIME DOMAIN signal in the box at the top of the screen or not. Not plotting the TIME DOMAIN speeds up the plotting of the FREQUENCY DOMAIN signal just below.

Pressing F3 toggles between plotting a running average of the spectrum or not. The running average will tend to raise the signals that are present more often than the signal that are transient in nature such as noise.

Pressing F4 toggles between clearing the spectral plots between plots or not. This can be used for getting a general idea of what frequencies are showing up the most for a period of time.

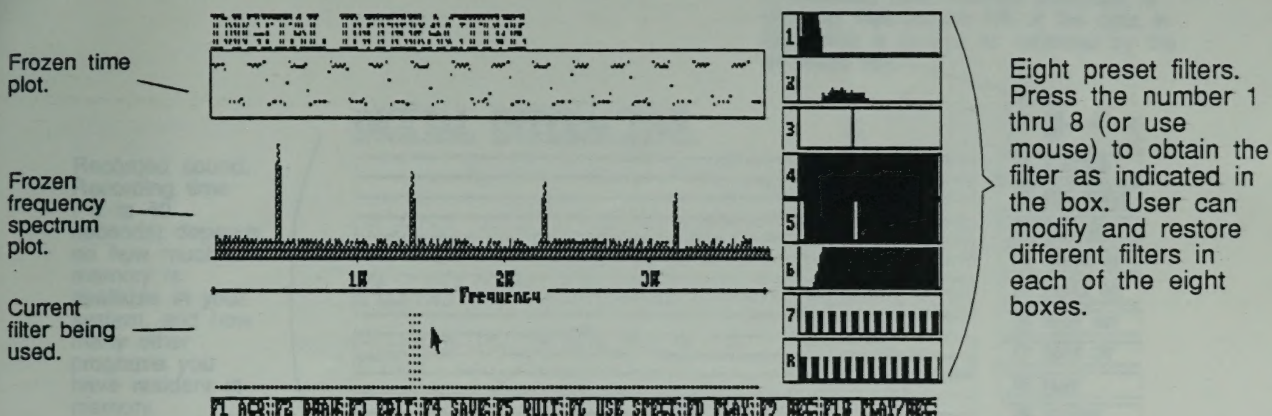
Pressing F5 displays the spectrum power.

Pressing F6 displays the magnitude of the spectrum

Pressing F7 displays 20* LOG of the magnitude. This is the most used and the default display.

Pressing F8 at any time records the receiver's output to the buffer as set up in the RECORD/PLAYBACK mode.

FILTER MODIFICATION MODE



Eight preset filters. Press the number 1 thru 8 (or use mouse) to obtain the filter as indicated in the box. User can modify and restore different filters in each of the eight boxes.

*THE MOUSE IS ACTIVE IN THIS MODE.
CLICK ON F BOXES OR PRESS INDICATED F KEYS.*

Pressing F1 takes you back to the acquisition mode, the mode that first came up on power up.

Pressing F2 enters the DRAWING MODE. See following explanation.

Pressing F3 allows saving of the filter drawn by the user into any of the eight boxes at the right of the screen.

Pressing F4 allows editing of any of the eight filters stored on the right side of the screen. In addition the current filter may be edited also.

Pressing F5 saves all the edited filters, terminates the program, and takes you back to DOS.

Pressing F6 will take whatever is in the frequency domain plot and use it as a filter.

Pressing F8 will play what ever was recorded in the buffer as setup in the PLAYBACK/RECORD MODE thru the currently selected filter.

Pressing F9 will record into the buffer as setup in the PLAYBACK/RECORD MODE.

Pressing F10 will enter into the PLAYBACK/RECORD MODE.

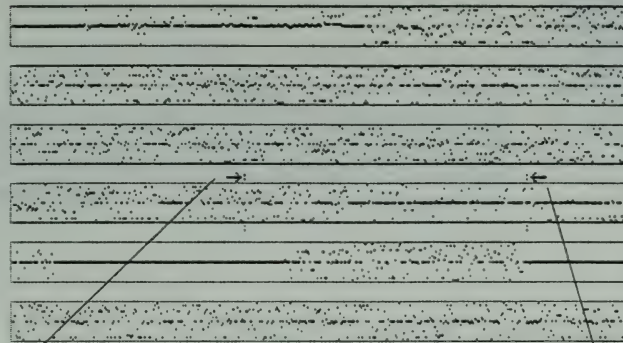
PLAYBACK/RECORD MODE

When first coming into this playback/record mode the left mouse button sets the beginning marker and the right mouse button sets the end marker. Or you can click on F2 to set the beginning and F3 to set the end.

Viewing indicator. Recorded data plotted is indicated here. Current indication is showing that around 1/5 of the data in the buffer is plotted as indicated by the all black box.

Recorded sound. Recording time (0 to 40 seconds) depends on how much memory is available in your system, and how many other programs you have resident in memory.

DIGITAL INTERACTIVE



Beginning
pointer

Ending pointer

Pressing F1 returns back to the FILTER EDIT MODE.

Pressing F2 allows the beginning pointer to be moved around.

Pressing F3 allows the end pointer to be moved around.

Pressing F4 increases the amplitude of the plotted data.

Pressing F5 decreases the amplitude of the plotted data.

Pressing F6 zooms out on the data, i.e. the data plotted is showing more of what's in the buffer.

Pressing F7 zooms in on the data in the buffer thus showing less of what's in the buffer.

Pressing F8 plays the recorded sound between the beginning and ending pointers back thru the selected filter.

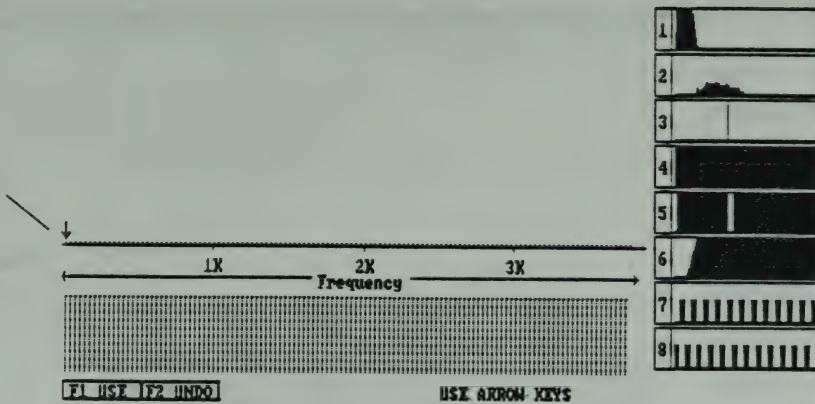
Pressing F9 records new data from the receivers output into the area between the beginning and end pointers.

Pressing the PgUp key moves the plotted data window back in the buffer.

Pressing the PgDn key moves the plotted data window up in the data buffer.

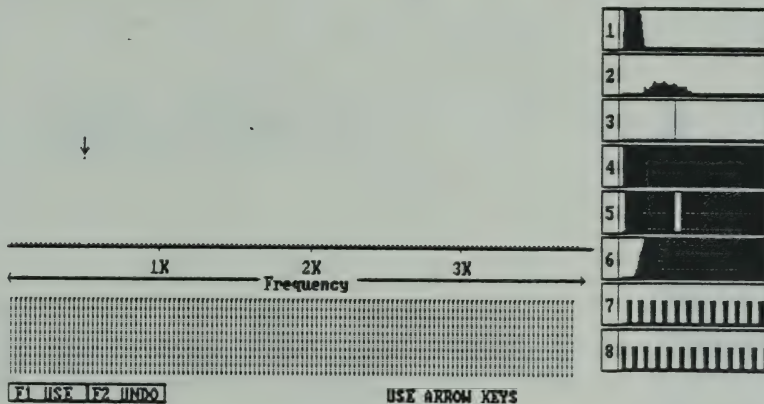
DRAWING MODE

Filter keyboard
edit arrow.



Move the keyboard editing arrow around using the left/right and up/down cursor arrows on the keyboard.

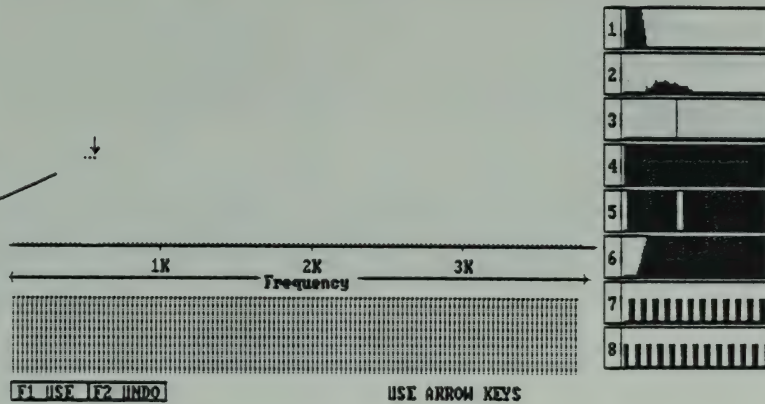
Pressing F1 will
download the
drawn filter to
the DSP-120
unit. Pressing F2
will undo the
drawn filter.



The desired filter can be drawn by the keyboard by moving the arrow over to the right using the right arrow cursor key, then move it up with the up arrow cursor key, as shown above.

DRAWING MODE (cont)

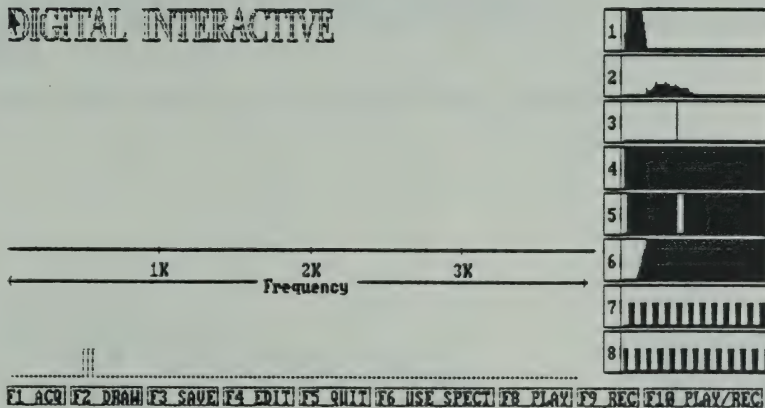
Drawn bandpass
filter



Move the keyboard editing arrow around using the left/right and up/down cursor arrows on the keyboard.

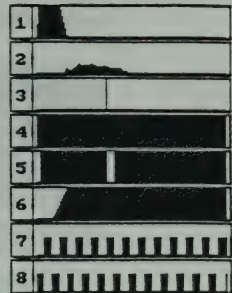
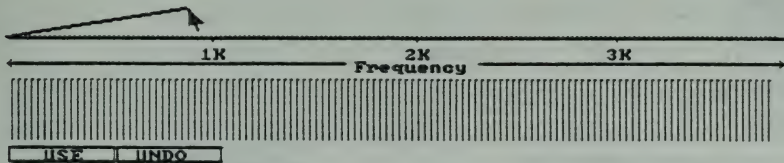
DIGITAL INTERACTIVE

After pressing F1
the filter is
downloaded to
the DSP-120 unit
and then
appears here.

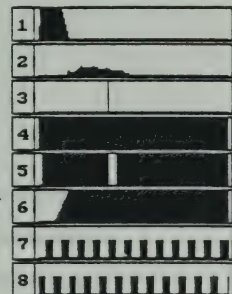
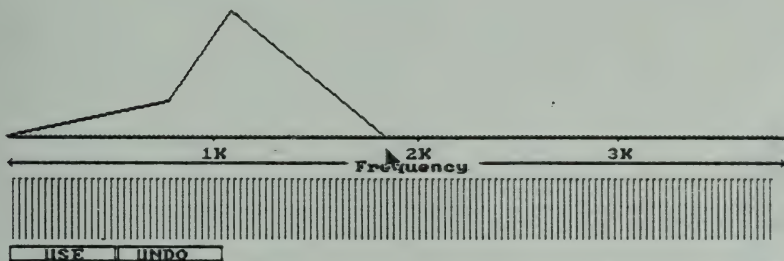


DRAWING FILTERS WITH THE MOUSE

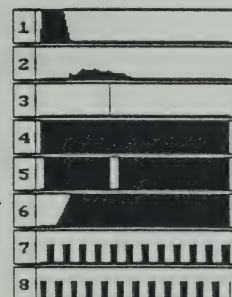
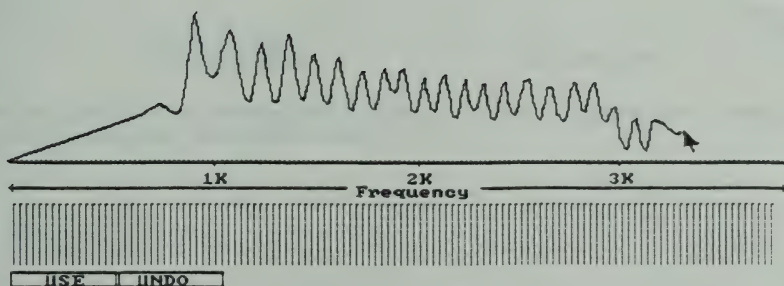
Click on the draw box then :



Move mouse to any point within drawing area and click.
The line will extend from the zero frequency origin to the point where the mouse is pointing

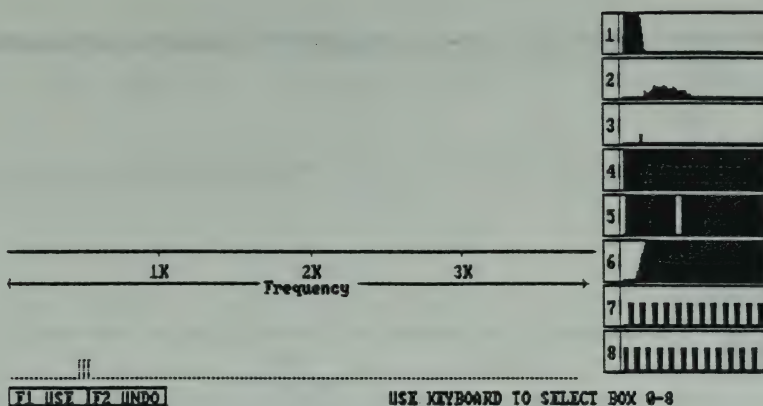


Move the mouse again and then click until you have completely defined your filter.

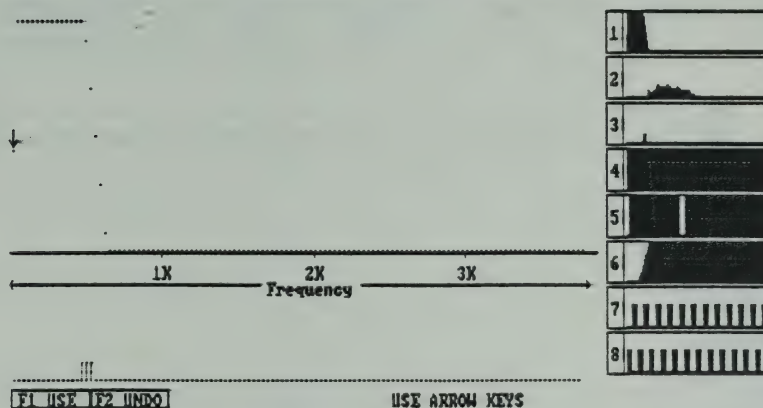


By holding the mouse button down and moving the mouse you can draw anything.

EDIT MODE

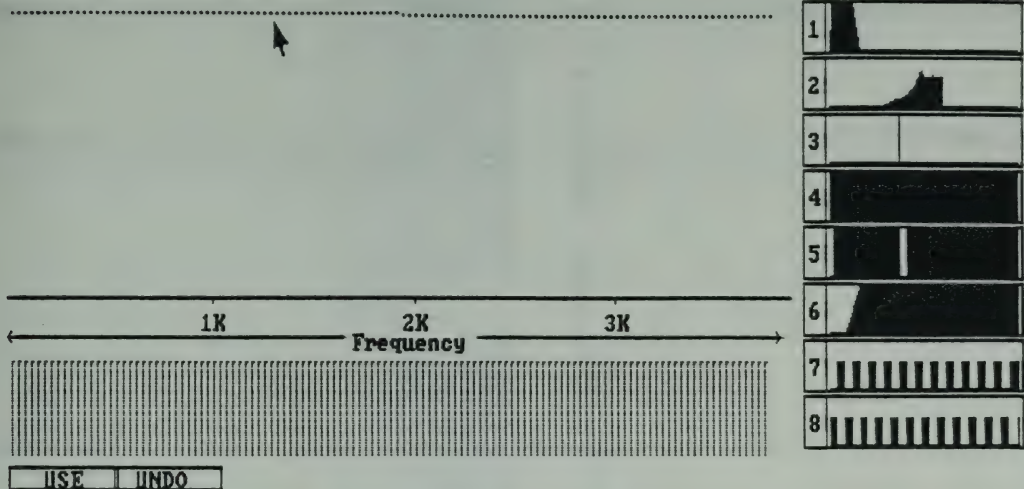


To edit one of the filters in the boxes at the right type 1 thru 8.
Type 0 to edit the currently being used filter shown at the bottom of the screen.



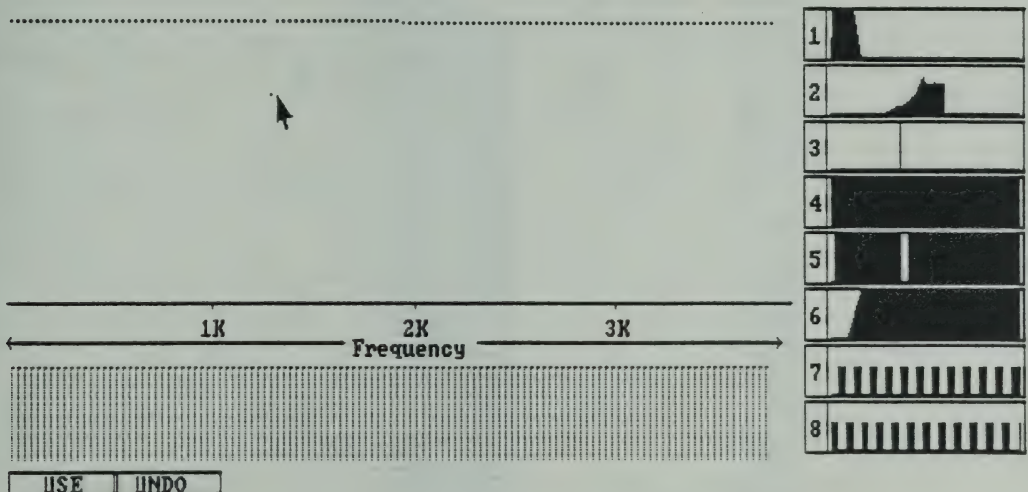
If the number 1 is pressed then the filter in box 1 is displayed as shown ready to edit using the cursor arrow keys.

EDITING USING THE Ctrl KEY



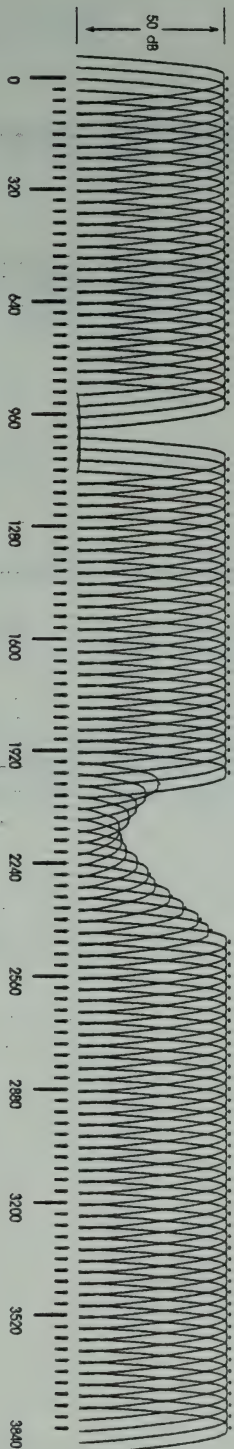
Select a filter by clicking on the EDIT button and then clicking on one of the eight boxes (1-8) on the right side of the screen.

Then hold the Ctrl key down and slide the point selected as shown down using the mouse. This as shown below will allow you to move just one point up and down the screen easily without effecting the other points.



DIGITAL FILTERING SHARPNESS COMPARED TO ANALOG FILTERING

CONSTANT BANDWIDTH DIGITAL BAND-PASS DIGITAL FILTER



7-POLE ANALOG BAND-PASS FILTER
GETS WIDER AS FREQUENCY INCREASES

DIGITAL INTERACTIVE

LOADING AND RUNNING THE SIGSOFT SOFTWARE

It is suggested that you create a directory on your hard drive and copy the floppy disk contents as shown below.

```
C:>md \di  
C:>cd\di  
C:\di>copy a:*.*
```

The program runs out of DOS and is invoked by typing sigsoft then Enter.

The program can run from a floppy disk instead of the hard drive, but it takes longer to load and the saving of files takes a bit longer.

Some DOS shell programs may cause the program to run very slowly. If it seems the program is running very slowly, then clear the DOS shell out of memory and run sigsoft from the DOS prompt >.

DIGITAL INTERACTIVE

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4/6/92

DIGITAL INTERACTIVE SIGNAL CORP. WARRANTY POLICIES

Our systems generally take 5 working days for testing and burning in before we ship it out.

* 30 day money back guarantee:

If you are not satisfied with our product for any reason within 30 days, you can return it (no questions asked ; no restocking fees) for a full refund on the price. Shipping and handling charges however are not refundable.

* One year warranty on parts and labor:

We will replace any defective parts in your system free for one year: Our company pay one way and the customer pay the other way.

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